

Book of abstracts
for
Psychiatry Research Day 2023

21 November at 12-16

Auditorium G206 145, Aarhus University Hospital,
Entrance G, Palle Juul-Jensens Boulevard 99, 8200 Aarhus

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Programme

12:00-12:45	Poster session — and sandwiches
12:45-12:55	Welcome to Psychiatry Research Day – Opening speech by Jakob Paludan, Chief Medical Officer
12:55-14:25	Presentations: Moderator: Professor Charlotte Rask
12:55-13:10	Jens Christian Hedemann Sørensen, professor and Chairman of the Board, Danish Neuroscience Centre "Building a World-Class Neuroscience Center"
13:10-13:25	Birthe Bruun Olsen, Department of Psychosis, Aarhus University Hospital, Psychiatry & Pernille Pedersen, DEFACTUM and Aarhus University "Vocational rehabilitation to patients with schizophrenia – Morfeus"
13:25-13:40	Shokouh Arjmand, Translational Neuropsychiatry Unit, Department of Clinical Medicine, Aarhus University "Patients do not fail treatment, treatments fail patients: Quasi-tenacious depression as an alternative framework to treatment-resistant depression"
13:40-14:25	Break, poster session — with coffee/tea and cake
14:25-15:40	Presentations: Moderator: Professor Søren Dinesen Østergaard
14:25-14:55	Oleguer Plana-Ripoll, Associate professor, Department of Clinical Epidemiology, Aarhus University and Aarhus University Hospital "The bidirectional associations between mental disorders and other medical conditions and the role of socioeconomic position"
14:55-15:10	Lisbeth Mølgaard Laustsen, Department of Clinical Epidemiology, Aarhus University and Aarhus University Hospital "Interaction between mental disorders and social disconnectedness on mortality: A Danish population-based cohort study"
15:10-15:25	Martin Bernstorff, Department of Depression and Anxiety, Aarhus University Hospital, Psychiatry and Department of Clinical Medicine "Development and validation of a machine learning algorithm for prediction of type 2 diabetes"
15:25-15:40	Charlotte Steen Duholm, Department of Child and Adolescent Psychiatry, Aarhus University Hospital, Psychiatry and Department of Clinical Medicine "Can health anxiety be differentiated from other anxiety phenomena in adolescence?"
15:40-16:00	Closing session and award of prize for best presentation and best poster Moderator: Professor Per Hove Thomsen

Abstracts for oral presentations

Abstract #01

Psychiatry Research Day 2023

DNC abstract, "Building a World-Class Neuroscience Center"

Jens Christian Hedemann Sørensen, professor and Chairman of the Board, Danish Neuroscience Centre

Danish Neuroscience Center (DNC) plans to establish a unique iconic building at Aarhus University Hospital. Our vision is to bring together leading neuroscience researchers and drive Danish neuroscience into the international elite with the goal to create the best treatments for patients with brain disorders. To fully understand psychiatric disorders, which involve complex neurobiological mechanisms, DNC will take an integrative approach by collaborating across multiple fields such as clinical neuroscience, psychology, molecular neuroscience, computer science, and more. The mission of DNC is to facilitate this integrational neuroscience research to develop new diagnostics and treatments for psychiatric and somatic brain disorders. The research focus of DNC is on translating neuroscience research into better patient treatments, developing new medical and surgical methods for brain and nervous system disorders. A further aim is to understand the functions of the normal brain and to identify why these functions are impaired in patients.

The new building will also have a 'Brain Universe' that is open to the public and can engage visitors in interactive exhibitions, workshops, and public lectures on brain health. DNC will also provide education for students, disseminate research findings, and serve as an innovation centre for the development of new methodologies and treatments for patients.

Abstract #02

Psychiatry Research Day 2023

Vocational rehabilitation to patients with schizophrenia - a qualitative study

Birthe Bruun Olsen, Occupational therapist, MR & Pernille Pedersen

Lisbeth Ørtenblad, senior researcher, Aarhus University Hospital & DEFACTUM, Ditte Lammers Vernal

Background: People with schizophrenia have an ambition to work and regard it as the most significant aspect in their recovery process as work improves self-esteem, independence, cognition, quality of life and level of functioning, and as a result psychiatric symptoms, admissions to hospital, use of psychotropic drugs and stigmatization are reduced. Since 2014 OPUS at Aarhus University hospital have offered a multidisciplinary, tailored, vocational rehabilitation intervention (Morfeus) to support employment among young people with schizophrenia. Morfeus is a collaboration between the employment unit of the municipality of Aarhus and the regional treatment system to ensure a highly qualified patient coordinated and coherent intervention.

The aim of this study was to explore experiences of quality of life, health and labour market affiliation among patients who received either OPUS + Morfeus or OPUS + standard vocational rehabilitation.

Methods: This was a qualitative study, using individual interview as data collection method. 12 patients recently diagnosed with schizophrenia were included. Data were analysed by thematic analysis.

Results: Three themes were identified: Work is concurrently rewarding and demanding; Illness symptoms, stigma and work mutually impact each other; Supported employment is essential to obtain work.

The study showed that the patients had a strong desire to work while concurrently faced serious difficulties in retaining occupation. Work was experienced as having a positive impact on everyday life and quality of life. On the other hand, work also posed serious challenges to the patients with negative consequences for health. The study showed that the patients benefitted from participating in Morfeus, which basically supported them in exploring their individual tipping-points of pros and cons of work.

Conclusion: Support to access and retention to work is imperative to allow young people with schizophrenia participation in work life and contribute to the community.

Abstract #03

Psychiatry Research Day 2023

Patients do not fail treatment; treatments fail patients: Quasi-tenacious depression as an alternative framework to treatment-resistant depression

Shokouh Arjmand (PharmD, PhD fellow)

Translational Neuropsychiatry Unit, Department of Clinical Medicine, Aarhus University

Rodrigo Grassi-Oliveira, Gregers Wegener

[The author has declined publication of this abstract](#)

Abstract #04

Psychiatry Research Day 2023

The bidirectional associations between mental disorders and other medical conditions and the role of socioeconomic position

Oleguer Plana-Ripoll (Associate Professor)

Department of Clinical Epidemiology, Aarhus University and Aarhus University Hospital
Natalie C. Momen, Linda Ejlskov, Søren Dinesen Østergaard, Uffe Heide-Jorgensen, Henrik Toft Sørensen, John J. McGrath, Oleguer Plana-Ripoll

Individuals with mental disorders are at elevated risk of subsequent medical conditions, and vice-versa. However, most previous studies on this topic were small, considered limited pairs of disorders, or reported only relative risks. Furthermore, no previous study has systematically considered the role of socioeconomic position in these bidirectional associations. In this talk, the results of three population-based cohort studies including all people living in Denmark from 2000 and onwards will be included. Using register-based data, we assessed the bidirectional associations between mental disorders (encompassing 10 types of mental disorders) and nine broad categories of medical conditions (encompassing 31 specific conditions). We investigated both relative and absolute risks, and we explored how the associations changed with age and over time. We observed that the risk of most medical conditions was higher for those diagnosed with a mental disorder compared with those without a diagnosis (out of the 90 pairs of disorders investigated, we observed an increased risk for 74 of them). Additionally, the risk of developing any mental disorder was higher after all investigated medical conditions except for cancer (although cancer was associated with subsequent risk of mood and anxiety-related disorders). All associations varied over time and depending on the specific disorders of interest. Additionally, this talk will introduce some preliminary results indicating how these bidirectional associations depend on socioeconomic position (measured through household income/wealth, divided into three groups: lowest 20%, 20-80%, and highest 20%). While there is a clear social gradient in the risk of developing all conditions in the general population, this gradient is not so evident among those with a diagnosis of a mental disorder or medical condition. In conclusion, comorbidity between mental disorders and other medical conditions is bidirectional and systematic, and some absolute risks are considerable. Future studies on this topic should take the underlying socioeconomic position into account.

Abstract #05

Psychiatry Research Day 2023

Interaction between mental disorders and social disconnectedness on mortality: A Danish population-based cohort study

Lisbeth Mølgaard Laustsen, PhD Student

Department of Clinical Epidemiology, Aarhus University and Aarhus University Hospital,
Denmark

Linda Ejlskov, Danni Chen, Mathias Lasgaard, Jaimie L. Gradus, Søren Dinesen Østergaard,
Marie Stjerne Grønkjær, Oleguer Plana-Ripoll

Background: Despite the recognized importance of mental disorders and social disconnectedness for mortality, few studies have examined their co-occurrence. This study examined the potential interaction between these two risk factors in the association with mortality in subgroups based on sex, age, and characteristics of the mental disorder.

Methods: This cohort study included participants from the Danish National Health Survey in 2013 and 2017 who were followed until 2021. Survey data on diminished social connections (loneliness, social isolation, and low social support) were linked with register data on hospital-diagnosed mental disorders and mortality. Poisson regression was applied to estimate the independent and joint association with mortality. Interaction contrasts and attributable proportions were calculated as deviations from additivity.

Results: A total of 162,497 individuals were followed for 886,614 person-years, and 9,047 individuals (5.6%) died during follow-up. Among men, interaction between mental disorders and loneliness, social isolation, and low social support, respectively, accounted for 48% (95% confidence interval [95% CI]: 21–75%), 20% (95% CI: -20–61%), and 61% (95% CI: 36–86%) of the joint association with mortality. This corresponded to 63 (95% CI: 7–119), 19 (95% CI: -25–62), and 61 (95% CI: 17–104) deaths per 10,000 person-years. Among women, no excess mortality could be attributed to interaction.

Conclusion: Our findings suggest that men, but not women, with both a mental disorder and diminished social connections have an elevated mortality rate compared to that expected based on each factor independently. Awareness of elevated mortality rates among men with a co-occurring mental disorder and diminished social connections could be of importance to prevention efforts in mental health care.

Abstract #06

Psychiatry Research Day 2023

Development and validation of a machine learning algorithm for prediction of type 2 diabetes

Martin Bernstorff, Department of Depression and Anxiety, Aarhus University Hospital, Psychiatry and Department of Clinical Medicine

Background: Type 2 diabetes (T2D) is approximately twice as common among individuals with mental illness compared with the background population, but may be prevented by early intervention on lifestyle, diet, or pharmacologically. Such prevention relies on identification of those at elevated risk (prediction). The aim of this study was to develop and validate a machine learning model for prediction of T2D among patients with mental illness.

Methods: The study was based on routinely collected data from electronic health records from the psychiatric services of the Central Denmark Region. A total of 74.880 patients with 1.59 million psychiatric service contacts were included in the analyses. We included 1343 potential predictors covering patient-level information on demographics, diagnoses, pharmacological treatment, and laboratory results. T2D was operationalized as HbA1c ≥ 48 mmol/mol, fasting plasma glucose >7.0 mmol/mol, oral glucose tolerance test ≥ 11.1 mmol/mol or random plasma glucose ≥ 11.1 mmol/mol. Two machine learning models (XGBoost and regularized logistic regression) were trained to predict T2D based on 85% of the included contacts. The predictive performance of the best performing model was tested on the remaining 15% of the contacts.

Findings: The XGBoost model detected patients at high risk 2.7 years before T2D, achieving an area under the receiver operating characteristic curve of 0.84. Of the 996 patients developing T2D in the test set, the model issued at least one positive prediction for 305 (31%).

Interpretation: A machine learning model can accurately predict development of T2D among patients with mental illness based on routinely collected data from electronic health records. A decision support system based on such a model may inform measures to prevent development of T2D in this high-risk population.

Abstract #07

Psychiatry Research Day 2023

Can health anxiety be differentiated from other anxiety phenomena in adolescence?

Charlotte Steen Duholm, MD-PhD student

Department of Child and Adolescent Psychiatry, Psychiatry, Aarhus University Hospital
Charlotte Steen Duholm; Davið R.M.A Højgaard, PhD; Statistician Eva Ørnbøl; Statistician
Kaare Bro Wellnitz; Professor Per Hove Thomsen, Dr Med Sci; Martin Køster Rimvall, MD, PhD;
Professor Charlotte Ulrikka Rask, MD, PhD

Background: Health anxiety (HA) is characterized by excessive worries about the possibility of having a serious disease. There is a substantial phenomenological overlap between HA and other anxiety disorders. This study explored if HA differed from other anxiety phenomena in adolescence regarding symptoms of depression, physical symptoms, bodily dissatisfaction, health-related quality of life (HRQoL) and the use of health care services.

Methods: We employed data from the 16/17-year follow-up (N = 2521, 16-17 years old) from the general population-based Copenhagen Child Cohort CCC2000. Self-report questionnaires were used to assess health anxiety (Whiteley Index (WI)), anxiety (Spence Children's Anxiety Scale (SCAS)), depression (The Mood and Feelings Questionnaire), physical symptoms (Bodily Distress Syndrome-25 Checklist), bodily dissatisfaction, and HRQoL (KIDSCREEN-10) together with register data on health care utilization. Four groups were created based on cut-offs on the WI and SCAS: 1) no HA or anxiety, 2) only HA, 3) only anxiety, and 4) both HA and anxiety. Subsequently, differences between the four groups regarding depression, physical symptoms, body dissatisfaction, HRQoL and health care use were examined using general linear models.

Results: Among the 10.4% youths who were defined as having high HA, almost half (4.6% of the total sample) reported having only high HA without other anxiety symptoms. Compared to group 3, the HA group (group 2) displayed significantly fewer depressive symptoms, more physical symptoms and higher health care utilization. Compared to group 1, the HA group reported less favorably on all measures. Youths who reported high levels of both HA and other anxiety symptoms (group 4) had the most detrimental clinical profile.

Conclusion: Our results indicate that health anxiety in mid-adolescence can be recognized as a separate construct, associated with several negative health-related aspects. Research is needed to ensure adequate identification and treatment of HA in this age group.

Poster abstracts

Abstract #08

Psychiatry Research Day 2023

Genome-wide association study of Borderline Personality Disorder accounting for age at diagnosis and family history in iPSYCH

Alisha S M Hall, PhD student

Department of Clinical Medicine, Aarhus University

Department of Affective Disorders, Aarhus University Hospital – Psychiatry

Jette Steinbach, Emil M Pedersen, Jessica R Mundy, Esben Agerbo, Søren Dinesen Østergaard,

Jean-Christophe Philippe Debost, Bjarni J Vilhjalmsson, Isabell Brikell, Katherine L Musliner

Background: Borderline Personality Disorder (BPD) is a psychiatric illness characterized by marked instability in emotions, self-image, and interpersonal relationships. Although the lifetime prevalence of BPD in the general population is only 1–3%, individuals with BPD make up a large proportion of the patient population receiving treatment in psychiatric hospital services. To develop more effective treatment options and aid early intervention, we must improve our understanding of the etiology of BPD.

Methods: To investigate how common genetic variation influences the likelihood of developing BPD, we will conduct a genome-wide association study (GWAS) of BPD in the iPSYCH2015 sample. iPSYCH is a nationally representative case-cohort study of everyone born in Denmark between 1981 and 2008 and diagnosed with a major psychiatric disorder (i.e., affective/attention deficit hyperactivity/schizophrenia spectrum/autism spectrum/postpartum disorder) by 2015 and ~50,000 individuals randomly selected from the population for the cohort. We will identify all individuals diagnosed with BPD (ICD-10 F60.3x, ~7000 expected) within the entire iPSYCH2015 sample using the Danish Psychiatric Central Research Register. Individuals from the iPSYCH2015 cohort without a diagnosis of BPD will be used as the cohort for this study.

We will estimate the latent genetic liability for BPD for each individual with the extended liability threshold model conditioned on family history (LT-FH++) method. LT-FH++ is an alternative to traditional time-to-event analysis and can account for right censoring, sex and cohort effects, and family history. For our analysis, we will use the age at diagnosis, family history of BPD, and the cumulative incidence proportion of BPD stratified by sex and birth year of the entire Danish population from national register data. We will use the estimated genetic liability as a continuous phenotype to conduct a GWAS of BPD in BOLT-LMM. Ancestry principal components and genotyping array will be included as covariates.

Conclusion: This study will be the first GWAS of BPD to use time-to-event information and family history to date, leveraging information from the Danish national registers to increase the power to discover genetic risk factors for BPD. To date, the few, small GWAS investigating BPD have not detected any genetic risk loci.

Abstract #09

Psychiatry Research Day 2023

Feasibility test of intermittent Theta-Burst Stimulation (iTBS) as add-on to Eye Movement Desensitization and Reprocessing (EMDR) in EMDR-treatment-resistant work-related Post-traumatic stress disorder (PTSD)

Ana Lisa Carmo, MD

Department of Affective Disorders, Aarhus University Hospital - Psychiatry)

Bo Søndergaard Jensen, Balázs Padera, Søren Dinesen Østergaard, Pernille Kølbaek

Post-Traumatic Stress Disorder (PTSD) is a debilitating mental disorder that may have a long-term impact on an individual's emotional regulation, relationships, and functioning. Although recommended therapies, including trauma-focused Eye Movement Desensitization and Reprocessing (EMDR), do result in meaningful improvement, a significant number of patients do not respond sufficiently to treatment.

As PTSD is considered to be a disorder of neural circuitry, neuromodulatory treatments such as repetitive transcranial magnetic stimulation (rTMS) may serve as an effective add-on to trauma-focused psychotherapy. Specifically, rTMS may improve patients' ability to cognitively engage with trauma-focused treatments and facilitate the processing of traumatic memories. Notably, to date, no studies have examined the therapeutic effect of combined intermittent Theta Burst Stimulation (iTBS) – a subtype of rTMS – and psychotherapy in the treatment of PTSD.

The aim of this open-label study is to investigate the feasibility (compliance, potential therapeutic effect, safety, and tolerability) of adding iTBS to EMDR therapy for patients suffering from EMDR-treatment-resistant work-related PTSD.

A total of 20 patients with work-related PTSD, recruited from the outpatient PTSD clinic at Aarhus University Hospital – Psychiatry, who do not show a significant response after 7 weekly sessions of EMDR (reduction in CAPS-5 not superior to 10 points or not superior to 30%), will be treated with 4 weeks of daily iTBS as an add-on to their weekly EMDR treatment. Assessments of wanted and unwanted effects of treatment will be performed by a team of raters with established interrater reliability, at baseline, during, and after the combined EMDR and iTBS treatment.

If this pilot study shows that the add-on treatment of iTBS to EMDR in patients who do not respond sufficiently to EMDR alone appears feasible, it is our intention to examine the efficacy of iTBS as an add-on to EMDR in a multicentre randomized controlled trial, in collaboration with the other Psychiatric Services of the Central Denmark Region.

Abstract #10

Psychiatry Research Day 2023

Clinical implementation of a machine learning model for prediction of mechanical restraint

Andreas Aalkjær Danielsen, MD, PhD

Psychosis Research Unit, Aarhus University Hospital

Mads Sinding, Bettina Nørremark, Søren Dinesen Østergaard, Ole Mors

Background: Mechanical restraint is used to prevent patients from harming themselves or others. We have previously shown that a machine learning model (ML-model) can predict mechanical restraint on a day-to-day basis with clinically relevant precision (56% of all restrained patients were correctly identified). Here, we report preliminary findings from the implementation of this ML-model across three psychiatric wards in the Central Denmark Region.

Methods: Since August 20th, 2020, patients admitted to the psychiatric hospitals in the Central Denmark Region have been evaluated by the ML-model (silent test). From July 1st, 2021, as a pilot test, results from the ML-model were integrated into the clinical workflow at three psychiatric wards at Aarhus University Hospital where the staff had received an explanation of the ML-model's predictions and instructions on which interventions a positive prediction (high risk of mechanical restraint) should lead to. Here, we report data on the precision of the ML-model across the silent test- and implementation phases.

Results: From August 20th, 2020, to September 20th, 2023, 545.105 ML-model predictions were generated. Of these, 37.700 (6.9%) predictions flagged patients at risk of mechanical restraint, with 179 (0.5%) of them being restrained within the next 48 hours. The model correctly identified 48% of all restrained patients.

Conclusion: The precision of the ML-model across the silent test- and pilot test phases were comparable to the precision in the development phase. Full-scale implementation across all psychiatric wards in the Central Denmark Region is currently being considered.

Abstract #11

Psychiatry Research Day 2023

Course of neurocognitive development in children at familial high risk of schizophrenia or bipolar disorder: A prospective cohort study from 7 to 15 years of age. The Danish High Risk and Resilience Study – VIA 15

Andreas Færgemand Laursen (MSc)¹, Anette Fauriskov Bundgaard (MSc)^{1,2}, Nanna Lawaetz Steffensen (MSc)^{1,2}, Merete Birk (MSc)¹, Sinnika Birkehøj Rohd (MSc)⁴, Martin Wilms (MSc)⁴, Marta Schiavon (MSc)⁴, Doris Helena Bjarnadóttir Olsen (MSc)⁴, Jens Richardt Møllegaard Jepsen (PhD)^{2,3,4,5}, Torill Ueland (PhD)⁶, Prof. Merete Nordentoft (PhD)^{2,3}, Prof. Ole Mors (PhD)^{1,2}, Prof. Anne A. E. Thorup (PhD)^{2,4}, Aja Neergaard Greve (PhD)^{1,2}, Nicoline Hemager (PhD)^{2,3,4,7}

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Background: Schizophrenia (SZ) and bipolar disorder (BP) are severe mental disorders with shared and distinct clinical, cognitive, and genetic risk factors. These risk markers are also present in the offspring, who have an increased risk of developing severe mental illness. SZ is a neurodevelopmental disorder and neurocognitive impairments are presenting years before the manifestation of overt clinical symptoms. Findings regarding premorbid neurocognitive impairments in BP are less conclusive. Investigating the course of neurocognitive development before illness offers insights into both shared and illness-specific vulnerability markers.

The neurocognitive results from previous assessments of the presented cohort showed stable neurocognitive deficits in children at familial high risk (FHR) of SZ and stable neurocognitive functioning in children at FHR-BP that were comparable to population-based controls (PBC). The aim is to study the neurocognitive development in children at FHR-SZ and FHR-BP compared with PBC from age 7 to 15 and to identify potential subgroups of children across high-risk groups, with distinct neurocognitive profiles and developmental patterns.

Methods: The Danish High Risk and Resilience Study is a population-based cohort of 522 children (202 FHR-SZ, 120 FHR-BP, and 200 PBC). They were assessed at baseline at age 7 (the VIA 7 study) and at first follow-up at age 11 (the VIA 11 study) with a retention rate of 89%. The VIA 15 study is the third wave of assessments at 15 years of age. Neurocognitive functioning was assessed with a comprehensive neurocognitive test battery of validated tasks covering a wide range of cognitive functions.

Results: Data collection is ongoing and will be finalized in the spring of 2024.

Perspectives: Examining the development of neurocognitive deficits in children at FHR-SZ and FHR-BP will elucidate shared and distinct endophenotypes and help differentiate the pathophysiology of these severe mental illnesses. The long-term perspective is to use the knowledge on the developmental trajectories to guide intervention studies and inform preventive interventions to improve functioning, quality of life, and potentially even prevent transition to mental illness.

Abstract #12

Psychiatry Research Day 2023

Clinical validation of the Altman Self-Rating Mania Scale

Dr. Andreas Nissen

Department of Affective Disorders, Aarhus University Hospital - Psychiatry

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Background: The Altman Self-Rating Mania Scale (ASRM) is a questionnaire designed to assess manic symptoms in individuals with bipolar disorder. The ASRM has been widely used in clinical and research settings as a screening tool to identify the presence and severity of manic symptoms. While the ASRM has demonstrated promising psychometric properties, there are several gaps in the existing literature that need to be addressed to further validate the scale. Specifically, the agreement between the ASRM and clinician-rated scales for assessing the severity of manic symptoms (gold-standard) and the ability of the ASRM to detect longitudinal changes in manic symptoms have not been firmly established. Evaluating these psychometric properties would provide valuable information about the validity of the ASRM in the monitoring of treatment responsiveness and early detection of relapse. Therefore, the aims of the present study are to evaluate the test-retest reliability, structural validity, criterion validity, responsiveness, and construct validity of the ASRM.

Methods: Participants: A total of 250 inpatients and outpatients aged at least 15 years, receiving treatment for bipolar disorder (ICD: F30-31) in the Psychiatric Services of the Central Denmark Region, will be invited to participate via E-boks. Written informed consent will be obtained prior to participation. First, participants will complete the ASRM. Subsequently, trained, reliable raters who are blind to participants' ASRM responses will rate the participant on the clinician-rated Bech-Rafaelsen Mania Scale and Young Mania Rating Scale based on interviews with the participant and an informant. These self-rated and clinician-rated measures will be repeated after approximately three months. Demographic and clinical data will be retrieved from the participants' medical records. Statistical analyses include Rasch analysis and calculation of Cronbach's alpha, and intraclass correlation coefficient.

Results: Rater training and inter-rater reliability test will be conducted in October 2023 and data collection will begin shortly thereafter.

Conclusion: If this study confirms the reliability and validity of the ASRM in measuring manic symptoms, it will facilitate accurate monitoring of changes over time. This will enable measurement-based care of bipolar disorder across adolescent and adult psychiatric services.

Abstract #13

Psychiatry Research Day 2023

Comparing parent and child cognition in families with parental schizophrenia or bipolar disorder: a developmental perspective from the child was 7 to 15 years of age

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Background: Neurocognitive deficits are core features of both schizophrenia (SZ) and bipolar disorder (BP). Research has found that cognitive impairments are early vulnerability markers or endophenotypes for these disorders. Children at familial high risk (FHR) for SZ or BP show cognitive impairments that lie in between the respective patient group and healthy controls. Heritability of general cognitive ability increases significantly and linearly with age, suggesting a genotype-environment correlation. However, the intergenerational transmission of cognitive abilities is still an under-researched field both in general and in families with severe mental disorders. Few studies have investigated the association and only cross sectional data has been reported.

The aim of this study is to assess the transmission of intelligence, processing speed and verbal working memory from both biological parents to their offspring from the child was 7 to 11 to 15 years of age in a cohort of families where a least one parent was diagnosed with schizophrenia og bipolar disorder, or none of these disorders.

Methods: This study is part of The Danish High Risk and Resilience Study – VIA, a longitudinal nationwide cohort of children with no (PBC; 200), one or two parents diagnosed with SZ (FHR-SZ; 202) or BP (FHR-BP; 120). At age 7, 522 children and both biological parents were assessed (VIA 7). Parents and children underwent the same battery of tasks from validated neurocognitive measures. Intelligence was estimated using The Reynolds Intellectual Screening Test. Processing speed and verbal working memory was assessed respectively with Coding and Letter-Number Sequencing in children from Wechsler Intelligence Scale for Children – fourth edition, and in parents from Wechsler Adult Intelligence Scale – fourth edition. At age 11, the children were assessed again, with a follow-up rate of 89% (VIA 11). Now at age 15, the children are assessed for the third wave of the study (VIA 15).

Results: Data collection for VIA 15 is ongoing and will be finalized in the spring of 2024.

Conclusion: To our knowledge this is the first longitudinal study to assess cognition between parents and children in in the same study with the same measurements. This provides a unique opportunity to investigate how heritability and environmental factors play a role in the development of mental illness.

Abstract #14

Psychiatry Research Day 2023

Functional consequences of genetic variants in the sortilin 1 gene associated with increased risk of frontotemporal dementia

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[The author has declined publication of this abstract](#)

Abstract #15

Psychiatry Research Day 2023

The impact of pubertal development on social anxiety disorder in adolescents

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Background: Age at onset of puberty has declined in girls and probably also in boys and is associated with internalizing disorders such as social anxiety disorder (SAD). Whether this association is causal or due to reverse causation is uncertain, since prior studies were cross sectional without adjustment for common causes.

SAD emerges in early adolescence, affecting 3-7% of males and 3-11% of females with intense self-focused anxiety in public situations, social avoidance and impaired function. A potential association between earlier pubertal timing and faster tempo and SAD may involve social influences, hormonal changes and neurological developments. Puberty results in development of visible secondary physical traits. If these changes occur earlier and faster, they can intensify self-consciousness and fear of not fitting in especially in behavioral inhibited adolescents.

We hypothesize that earlier and faster pubertal development increases the risk of self-reported SAD, clinical diagnosis (ICD-10 F40.1) and psychopharmacological treatment.

Methods: Data from the Puberty Cohort, a Danish National Birth Cohort (DNBC) subset (15,819 children born 2000-2003), are used. Pubertal markers were collected every 6 months from age 11-18. Pubertal timing (average age at Tanner stage 3) and tempo (progression pace) is based on non-linear mixed effect growth models. A subgroup (5,203 girls and 3,388 boys) in this cohort participated in the 18-year DNBC follow-up reporting SAD on Spence Children's Anxiety Scale subscale. Diagnosis and treatment are obtained by linkage to Danish registries. We use multiple linear regression with mean differences (95% confidence interval (CI)) in SAD subscale scores with one-unit increase in pubertal timing and tempo and cox regression (underlying time-variable in days) with hazard ratios (95% CI) for diagnosis and treatment. All models are adjusted for maternal age at delivery, maternal age at menarche, maternal worries in pregnancy, parental psychiatric disease, socio economic status, adverse events and SDQ emotional subscale at age 7.

Conclusion: We aim to identify whether earlier and faster puberty increase SAD risk. If confirmed, it highlights the need to address modifiable causes of altered puberty. If adolescents with altered puberty show to be more vulnerable, healthcare policies and support systems should prioritize them and their families.

Abstract #16

Psychiatry Research Day 2023

Patient-admitted beds in an adolescent psychiatric setting

Anne Virring, Mette Isbak, Kate Zahle, Halil Öztoprak, Sanne Lemcke

Reducing coercion in psychiatry has been the focus for many years. Every time coercion is administered personal boundaries are violated. For every individual, it is of outmost importance to maintain integrity, basic human rights, and sense of empowerment. Many initiatives have been launched to minimize coercion and patient-admitted beds is one of them. This initiative allows the patient a sense of control over his/her needs with the possibility of being admitted immediately for a given number of days.

Since march 2019 patient admitted-beds have been part of a range of interventions at Aarhus University Hospital, Psychiatric Department for adolescents age 14 to 21. In the beginning patient-admitted beds were offered to patients with schizophrenia, but has later been expanded to a broader set of diagnoses. A written contract is made with the patient describing the circumstances for the admission.

In the initial analyses in April 2022, 18 women aged 15-20 years had a contract. After signing the contract, the patients total number of both hospital admissions and ambulatory contacts reduced. Prior to having a contract of a patient-admitted bed admissions with coercion were seven times higher.
Data will be up-dated in 2023.

The results imply that patient-admitted beds have a positive effect in the reduction of coercion for young patients.

Abstract #17

Psychiatry Research Day 2023

Involvement of informal caregivers in forensic mental health care

A method-integrating research project

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Background: Forensic psychiatry has increasingly turned towards recovery-oriented practices to improve rehabilitation. Recent trends in policy and research emphasize involving informal caregivers in these efforts, which has been shown to improve medication adherence and shorten hospital stays. However, forensic psychiatry faces unique challenges. Patients with legal mental health issues often have extended hospital stays, which can strain their relationships with family and friends. Despite recognizing the importance of these connections, we still lack a full understanding of how patients perceive and experience them during their time in secure psychiatric facilities. This highlights the need for further research to explore these relationships, their impact on patients' social lives, how these relations are shaped and reshaped during a patient's hospitalization, as well as the support informal caregivers require for the patient's journey to recovery.

Aim:

- a) To map networks of significant others and relatives based on patients' own perceptions of their social connections, enhancing our understanding of the relationships and connections that patients themselves deem meaningful.
- b) To gain a deeper understanding of the experiences of caregivers involved in the care of patients within the studied networks.

Methods: The research project consists of two sub-studies based on the above aims. In order to identify who, the forensic patients consider to be their relatives, a structured interview study will be conducted (sub-study 1). Participants will be recruited among the inpatients at two forensic psychiatric hospitals in the Central Denmark Region. For sub-study two, semi-structured interviews with caregivers in forensic mental health care will be conducted.

Results: The study is scheduled to take place from 2023 to 2025. Sub-study 1 is set to start its data collection during the fall of 2023, while sub-study 2 is currently in the preparatory phase.

Perspectives: The outcomes of this study have the potential to guide clinical practices in forensic psychiatry. By filling gaps in our understanding of patient perceptions and caregiver experiences, we can contribute to the development of evidence-based approaches that prioritize recovery-oriented practices in forensic psychiatry

Abstract #18

Psychiatry Research Day 2023

Epilepsy in Danish School-aged Children and academic performance in standardized tests: A nation-wide matched cohort study

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[The author has declined publication of this abstract](#)

Abstract #19

Psychiatry Research Day 2023

E-cycling as intervention in Forensic Psychiatry - A Grounded Theory Study of the Importance of Interaction for Recovery

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[The author has declined publication of this abstract](#)

Abstract #20

Psychiatry Research Day 2023

Psychometric properties of the Danish version of Diabetes Eating Problem Survey Revised

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Abstract

The aim of this study was to examine the psychometric properties of the Danish translation of Diabetes Eating Problem Survey – Revised (DEPS-R) among adolescents with type 1 diabetes. A total of 131 adolescents with type 1 diabetes aged 11-19 years old completed DEPS-R and Youth Eating Disorder Examination Questionnaire (YEDE-Q). Additional anthropometrical, biochemical, and medical data were obtained from medical records. Exploratory Factor Analysis was performed to examine the factor structure of DEPS-R. DEPS-R was found to have good internal consistency (Cronbach $\alpha=0.87$) and was significantly correlated with YEDE-Q ($r=0.80$; $p<0.01$), HbA1c ($r=0.32$; $p<0.01$), zBMI ($r=0.35$; $p<0.01$) and age ($r=0.20$; $p<0.05$), indicating high construct validity. The mean DEPS-R score was 12.6 (± 10.7) for the entire sample, however significantly different between males (8.4 [± 9.1]) and females (16.4 [± 10.6]). Factor analysis revealed a 3-factor structure accounting for 58% of the variance, and suggested elimination of item 4. Adjustments lead to a higher Cronbach α , while maintaining construct validity of the 15 item DEPS-R with similar correlations on all variables. This study confirms DEPS-R to be a valid screening tool to detect symptoms of disordered eating in adolescents with type 1 diabetes but proposes a reduced version by deleting item 4. Future research is needed on updating the original DEPS-R including sensitivity analysis of DEPS-R in detecting serious eating disorder related behaviour in type 1 diabetes.

Abstract #21

Psychiatry Research Day 2023

Somatic Health Challenges and Social Factors in Forensic Psychiatric Patients: A Study on Health Inequities and Health Literacy

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Themes: Ethnicity, somatic health, health inequity, forensic psychiatry

Background

Ethnic minority groups often face unique systemic barriers and cultural challenges that impact their mental and physical health (Kirmayer et al., 2021). This study aims to investigate the impact of ethnicity on GP relationship and various health metrics within a Danish forensic psychiatric context.

Methods: A total of 75 forensic psychiatric inpatients from Central Region Denmark were recruited to this cross-sectional, explorative study. A total of 57 patients were of western ethnicity (primarily of Danish descent) and 18 of non-western ethnicity (primarily immigrants). Data were gathered through health questionnaires and clinical records and tests to examine a range of variables including family history, self-rated health, GP relationships, and key health indicators such as weight, smoking habits, HbA1c, and D-vitamin status.

Results: The study found notable ethnic disparities across various metrics. Patients of non-western ethnicity reported poorer self-rated health and less favorable relationships with their GPs compared to their western counterparts. In terms of health indicators, non-western patients had lower mean weight, fewer daily smokers, but elevated levels of HbA1c and lower D-vitamin statuses.

Conclusion: Despite making up only 24% of the sample, the high prevalence of non-western ethnicities, primarily immigrants, is noteworthy, given their estimated 8.9% representation in the broader Danish population. Our findings suggest a complex interplay of factors, including systemic barriers and cultural considerations, affecting mental health and healthcare experiences among these groups.

The study underscores the need for culturally competent healthcare and tailored interventions to address the unique challenges faced by psychiatric patients of non-western ethnicities.

This study points to the need for greater emphasis on ethnic minorities in research exploring the complex interplay between mental health and healthcare access, especially in the context of forensic psychiatry.

Abstract #22

Psychiatry Research Day 2023

A nationwide target trial emulation assessing the risk of antidepressant-induced mania in patients with bipolar depression

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Objective: Antidepressants are commonly used to treat bipolar depression, but may increase the risk of mania. The evidence from randomized controlled trials is, however, limited by short treatment durations, providing little evidence for the long-term risk of antidepressant-induced mania.

Methods: Using data from Danish nationwide registers, the authors performed a target trial emulation to compare the risk of mania in individuals with bipolar depression treated vs. not treated with antidepressants. The study included 979 individuals recently discharged from a psychiatric ward following bipolar depression. Of these, 358 individuals received antidepressant treatment, while 621 did not. The occurrence of mania and bipolar depression was ascertained over the following year, and the intention-to-treat effect of antidepressants was analyzed using Cox proportional hazards regression with adjustment for baseline covariates to emulate randomized open-label treatment allocation.

Results: The fully adjusted analyses revealed no statistically significant associations between treatment with an antidepressant and the risk of mania in the total sample (hazard rate ratio, HRR (95% confidence interval, CI) = 1.08 (0.72, 1.61), in the subsample concomitantly treated with mood stabilizing medication (HRR = 1.16, 95% CI 0.63, 2.13), nor in the subsample not treated with a mood-stabilizing agent (HRR = 1.16, 95% CI 0.65, 2.07). Secondary analyses revealed no statistically significant association between treatment with an antidepressant and bipolar depression recurrence.

Conclusions: These findings suggest that the risk of antidepressant-induced mania is negligible and call for further studies to optimize treatment strategies for individuals with bipolar depression.

Abstract #23

Psychiatry Research Day 2023

Prevalence and Clinical Correlates of Family Accommodation in Pediatric Obsessive-Compulsive Disorder

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Obsessive-compulsive disorder (OCD) affects 1-3% of children and adolescents and can profoundly impact their daily functioning. Family accommodation (FA) is defined as actions taken by parents or other family members to accommodate OCD symptoms by temporarily alleviating distress or impairment. However, in the long run, FA can contribute to the maintenance of OCD symptoms by interfering with corrective learning and habituation.

The aims of this study were to estimate the prevalence of FA and investigate the factors influencing FA in a large sample of Scandinavian children and adolescents (N=238). FA was assessed using the Family Accommodation Scale (FAS), a 12-item clinician-rated interview. Several other assessments were used to assess OCD severity, OCD-related functional impairment, as well as internalizing and externalizing symptoms.

Results showed that approximately 70% of primary caregivers reported daily accommodation, while 98% reported it occurring at least once a week. Multiple linear regression analysis demonstrated that age, OCD severity, OCD-related functional impairment, as well as higher internalizing and externalizing symptoms, were specifically associated with the FAS total score. The model accounted for 30.6% of the variance of the total FAS score ($F(6, 162) = 23,125.763, p < 0.001$). FAS scores were positively correlated with contamination/cleaning symptoms ($r=0.21, p < 0.001$), but not with the harm/sexual symptoms ($r=-0.07, p=0.152$) or symmetry/hoarding symptoms ($r=0.05, p=0.280$). A path analysis revealed that FA partially mediated the relationship of OCD severity and externalizing symptoms with functional impairment, and fully mediated the relationship between age and functional impairment. The results highlight the role of FA in the progression of OCD and related symptoms. It is recommended to emphasize the need for evaluating FA before initiating OCD treatment and addressing it as necessary during treatment.

Abstract #24

Psychiatry Research Day 2023

**Internet-CBT for functional abdominal pain disorders in children and adolescents:
Detailed trajectory of effect described in a single case design study.**

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[The author has declined publication of this abstract](#)

Abstract #25

Psychiatry Research Day 2023

Late detection of cancer is a key challenge in the inequality of life expectancy of people suffering from severe mental illness compared to the general public

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[The author has declined publication of this abstract](#)

Abstract #26

Psychiatry Research Day 2023

Does intoxication lead to sexual offending in forensic psychiatric patients?

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Co-author: Lisbeth Uhrskov Sørensen, Christian Jentz, Parnuna Heilmann, Naaja Nathanielsen

This nationwide retrospective cross-sectional study investigates the prevalence of sexual index crime in male Greenlandic forensic psychiatric patients and determinants associated with sexual index crime. Data was collected from electronic patient files, court document and forensic psychiatric assessments and analysed using unpaired t-tests and Fishers exact. The prevalence of sexual index crime (SIC) was 24% (n=17) and of those 59% (n=10) were cases of sexual crime recidivism. Patients who committed SIC were more likely to be intoxicated during the crime, particularly with alcohol, than patients who committed non-sexual index crime (NSIC) (p=0.001). Treatment of underlying substance abuse, in particular tendency to acute alcohol intoxication, could be crucial to prevent sexual crime recidivism in this patient group. Population-based efforts to reduce binge drinking could be an important consideration in sexual crime reduction.

Abstract #27

Psychiatry Research Day 2023

Adolescents with Functional Gastrointestinal Disorders: Lived symptom experience after receiving psychological treatment with i-CBT

Helene Søgaaard Singh, Research Year student

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Eva Skovslund Nielsen, Karen Hansen Kallesøe, Marianne Bonnert, Maria Lalouni, Ditte Roth Hulgaard and Charlotte Ulrikka Rask)

Background: Functional Gastrointestinal Disorder (FGID) in adolescents can affect their quality of life and lead to increased school absence. For the young person, understanding how to cope with the symptoms can be frustrating. Cognitive Behavioural Therapy (CBT) is an effective treatment for patients with FGID, but very few studies have explored how the young patients experience the psychological treatment, including how the treatment may influence their illness beliefs and behaviours. This present qualitative study is embedded in the larger ongoing research project "The Danish FGID Treatment Study", which investigates the feasibility and effect of internet delivered-CBT (i-CBT) to young patients with FGID and their parents.

The aim of this study is to investigate the potential changes in lived symptom experiences in adolescents with FGID who have received i-CBT, as well as investigate their overall experience of receiving i-CBT. **Methods:** In depth semi-structured interviews were performed with 8 adolescents aged 13-17 years with FGID, who had participated in the i-CBT program. Interviews were conducted face to face, and an interview-guide was developed in advance. Questions were open ended, and the focus was upon the adolescent's experiences with the treatment program, their thoughts about their disorder, symptoms and symptom related behaviours, and if/how these may have changed during treatment. The interviews will be analysed stepwise following Interpretative Phenomenological Analysis, a useful method which seeks to understand or interpret the subjective lived experience, meaning or sense making of a certain phenomenon.

Results: All interviews are currently being analysed individually. The goal is to have the results ready by the end of October 2023.

Conclusion: An enhanced understanding of the adolescents' overall experience of receiving i-CBT for their FGID and how the treatment might have changed their lived symptom experiences, may improve our understanding of how this kind of treatment works in more detail, as well as how the current treatment programs could be improved. Furthermore, the findings may help increase the general understanding of the perspectives of adolescents living with FGID.

Abstract #28

Psychiatry Research Day 2023

A systematic review of whether the number of linguistic errors in medical interpretation is associated with the use of professional vs ad hoc interpreters

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Medical consultations dependent upon a shared linguistic understanding between patient and physician. When language concordance is not possible, interpretation is needed. Prior studies have revealed that using professional in-person interpretation (PIPI) results in patients reporting both higher satisfaction and a better understanding of physician explanations. Despite this language-discordance often results in the use of family/friends for ad hoc interpretation.

This systematic review examines the linguistic aspect of medical interpretation by assessing the number of linguistic errors and their relation to the use of professional in-person interpretation (PIPI) or in-person ad hoc interpretation (IPAHI).

To identify eligible studies a PICO-criteria based search was performed in PubMed, Web of Science, Embase, Scopus, and CINAHL. English and Danish studies published from 1995 to February 2023 were screened. Furthermore, references from and citations of included articles were screened. Risk of bias was assessed following the appropriate Cochrane Tool.

We identified five studies using a PICO-search, and snowballing lead to one additional study. Included studies showed important methodological differences, and thus a statistical synthesis of results was not made. The number of linguistic errors was found to be significantly lower when using PIPI compared to family/friends for IPAHI. Linguistic error rates were not significantly lower when comparing PIPI to the use of medical staff without interpretation training for IPAHI. Generally, we found that the difference between PIPI and IPAHI was larger when dealing with severe diagnosis, e.g., incurable cancer.

The conclusions drawn in this review are limited by the methodological differences between and the risk of bias within included studies. Considering these limitations and the fact that no other systematic reviews within this specific field exists, this review resulted in the following recommendations:

- 1) The use of professional in-person interpretation should be first choice in language-discordant medical consultations.
- 2) If professional interpretation is not possible, the use of medical staff without interpretation training should be chosen before family/friends.
- 3) All participants in the consultation should keep sentences short and simple, as this is related to a lower risk of omissions in interpretation.

Abstract #29

Psychiatry Research Day 2023

Lifestyle risk factors and somatic health among psychiatric patients in Greenland

Ida Margrethe Nielsen cand. Med.

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Lisbeth Uhrskov Sørensen, Søren Wichmand, Parnûna Heilmann, Michael Lyng Pedersen.

Background: Patients with psychotic disorders have increased mortality and morbidity compared to the general population. This is, to a large extent, due to comorbid somatic diseases.

Aim: To describe the prevalence of selected risk factors and somatic disorders among psychiatric patients diagnosed with a psychosis disorder.

Material and methods: Data were extracted from Greenland's nationwide electronic medical record. The study population consists of 104 patients diagnosed with a psychotic disorder (Chapter F2, Schizophrenia, schizotypal and delusional disorders, International Classification of Disease (ICD-10)) and residing in Nuuk.

Results: The participants' median age (IQR) was 39 years (28.0;53.5). More than a fourth of the patients were obese with a body mass index (BMI) at or above 30 kg/m², more than 80% were daily smokers, and 69% had an ICD-10 diagnosis – of dependency or harmful use of cannabis.

Six percent of this sample had hypertension, and six percent suffered from diabetes mellitus type 2. Only a few had dyslipidemia (any imbalance in lipids), and none were diagnosed with chronic obstructive pulmonary disease or heart failure.

Conclusion: The study population had a high prevalence of lifestyle risk factors. In contrast, a low prevalence was observed for cardiovascular diseases and chronic obstructive pulmonary disease, which can be explained by the young median age of the population. Psychiatric patients in this study are at great risk of developing more severe somatic disorders with increasing age and, ultimately, premature death.

Abstract #30

Psychiatry Research Day 2023

Predicting Risk of Involuntary Psychiatric Admission for Psychiatric Outpatients

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Erik Perfalk, Søren Dinesen Østergaard, Martin Bernstorff, Ole Mors, Andreas Aalkjær
Danielsen

Background: In acute situations where psychiatric patients exhibit dangerous or self-harming behaviour or experience a rapid deterioration in their general condition, they may be involuntarily hospitalised. However, this coercive measure is both highly resource-intensive and distressing for the patient and should be restricted as much as possible. Identifying patients at high-risk of this practice may help allocate resources more efficiently and enable earlier interventions that may reduce the risk. In this study, we investigate if machine learning (ML) trained on electronic health records (EHRs) can be used to predict these high-risk patients.

Method: The dataset consists of data from the PSYchiatric Clinical Outcome Prediction cohort, comprising individuals over the age of 18, with at least one contact with psychiatry in Central Denmark Region between 2013 and 2021. Predictions of whether a patient would be involuntarily admitted within the following six months were issued 24 hours prior to all scheduled outpatient visits. An extensive feature set was derived from structured patient variables using both domain expert judgement and findings from previous research. Furthermore, we extracted features from free-text clinical notes. For the prediction task, we trained XGBoost and elastic net logistic regression models. Hyperparameter tuning was conducted using 5-fold cross validation on a 85% training split, with the remaining 15% of the data held out as an independent test split.

Results: The model was trained on 1.259.746 prediction cases spanning 59.873 unique patients. In 5.794 of the cases, distributed across 851 individual patients, the target patient was involuntarily admitted within 6 months. On the features based on structured variables, the best performing algorithm (XGBoost) yielded an AUROC=0.780. Notably, task performance was improved when leveraging the text-enhanced feature set.

Conclusion: The findings of this study suggest that patients at risk of being involuntarily admitted within 6 months from an outpatient visit can be identified using ML algorithms on EHR data. Additionally, the results demonstrate that mining the clinical notes improves performance on the task. More research is, however, needed to determine the clinical utility of the algorithms.

Abstract #31

Psychiatry Research Day 2023

A Feasibility study of the Transdiagnostic Self-injury Interview

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Objectives: The Transdiagnostic Self-injury Interview (TSI) is a new measure for non-suicidal self-injury in clinical settings. It assesses onset, frequency, methods, and severity. The aims were to demonstrate the feasibility of a TSI validation study, and to investigate TSI's criterion validity, clinical correlates, and interrater reliability.

Materials and methods: Recruiting sites were in- and outpatient units in adult psychiatry. Feasibility targets included number of participants completing the study, TSI completion time, total participation time, participants experiencing exacerbation of symptoms, along with other targets. Criterion validity was evaluated using the Deliberate Self-Harm Inventory (DSHI). Clinical correlates were examined with the Columbia-Suicide Severity Rating Scale (C-SSRS), the Personal and Social Performance Scale (PSP), the Affective Lability Scale-18 (ALS-18), and the Brief Trauma Questionnaire (BTQ). Interrater reliability was evaluated with video recordings and written material.

Results: Fifty participants were included. The majority were women (76 %) and had a mean age of 31.3 years (SD: 10.4). Schizophrenia (44 %) and schizoaffective disorder (18 %) were the most prevalent diagnoses. TSI took on average nine minutes to complete and the total participation time for the study was on average less than one hour. One participant experienced exacerbation of self-injury ideation without need of intervention. Excellent correlation was found between TSI and DSHI. TSI was correlated to C-SSRS ideation intensity and ideation frequency but not suicidal attempts. TSI was not correlated to PSP, BTQ, and ALS-18. Interrater reliabilities were excellent.

Conclusions: The results support the feasibility of a TSI validation study, which is needed to validate TSI in different settings and across diagnoses.

Abstract #32

Psychiatry Research Day 2023

Validating the Transdiagnostic Self-injury Interview in Schizophrenia Spectrum Disorders

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Objectives: Non-suicidal self-injury is the deliberate and self-inflicted damage of body tissue without suicidal intent that causes psychological and physical harm. It is a major health concern especially in psychiatric settings, where one in three patients with schizophrenia spectrum disorders engage in NSSI. Documentation in the medical files are not systematized and misclassifications are frequent, e.g. when self-injury is classified as a suicide attempt. The Transdiagnostic Self-injury Interview (TSI) is a measure for NSSI in clinical settings. It assesses onset, frequency, methods, and somatic treatment.

The aims are to demonstrate the validity of TSI in schizophrenia spectrum disorders by investigating criterion validity, clinical correlates, and interrater reliability.

Methods: Recruiting sites are in- and outpatient units at the Department of Psychosis, Aarhus University Hospital, Psychiatry.

The inclusion criteria are currently undergoing in- or outpatient psychiatric treatment; being 18 years of age or older; diagnosed with a schizophrenia spectrum disorder. The exclusion criteria are: Mental states that severely interfere with interviewing the patient (e.g. ongoing abuse of psychoactive substances, severe psychosis, severe neurodevelopmental disorders, IQ < 70, dementia).

TSI will be compared the Deliberate Self-Harm Inventory, that is a validated 15-item self-report inventory. Validated measures for suicidality, emotional reactivity, depression, anxiety, psychotic symptoms, functional impairment, and history of trauma are included to examine clinical correlates of TSI.

During training the three raters will rate six videos and rate at least two live interviews performed by JNK. ICC has to be >0.60 before the raters can include participants to the study by themselves.

Results: Data collection is ongoing and will end in December, 2023.

Conclusions: If validated, we expect that TSI can be implemented nationally and used for early screening across psychiatric settings that treat schizophrenia spectrum disorders. Improved registration of NSSI will advance register data making it possible to conduct detailed studies on risk factors for life-threatening NSSI behavior, suicide and coercion. This will advance our understanding of clinical trajectories, which is a precursor for personalized treatment and development of specialized interventions.

Abstract #33

Psychiatry Research Day 2023

Polygenic liabilities and clinical trajectory patterns in individuals diagnosed with early-onset major depressive disorder in Danish psychiatric hospitals

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Background: The clinical presentation of major depressive disorder (MDD) is heterogenous. Research shows that differences in genetics between individuals, summarized numerically as a polygenic score (PGS), influences clinical course. We investigated whether PGSs for 6 psychiatric disorders influenced MDD's clinical course in a nationally representative sample of individuals with early-onset MDD (diagnosis <25 years).

Methods: We studied 11,395 individuals from iPSYCH2015 who were treated for early-onset MDD (ICD-10 F32-F33) in psychiatric hospitals (inpatient, outpatient, or emergency). We used Latent Class Growth Analysis (LCGA) to identify distinct trajectory patterns of hospital admission over a 7-year period following first diagnosis. Using DNA samples, PGSs were computed for MDD, schizophrenia (SCZ), bipolar disorder (BD), attention deficit hyperactivity disorder (ADHD), autism spectrum disorder (ASD), and anorexia nervosa (AN). Using multinomial logistic regressions, we tested associations between PGSs and trajectory classes. Using logistic regression, we tested associations between PGSs and outcomes for individuals who left the hospital system within 6-24 months.

Results: LCGA showed 4 trajectory classes: 1) brief contact (65%) including individuals who left secondary treatment within 24 months (most within 6 months), 2) prolonged initial contact including individuals who stayed in secondary treatment for MDD for 3-4 years (20%), 3) later re-entry (8%), 4) persistent contact (7%). Compared to individuals with brief contact, PGS-MDD was significantly associated with later re-entry (OR=1.09, p=0.01). PGS-ADHD was associated with decreased odds of prolonged initial contact (0.92, p=0.0008) and persistent contact (0.90, p=0.006). PGS-AN was associated with persistent contact (1.11, p=0.01) and PGS-ASD was associated with later re-entry (1.08, p=0.02). In the brief contact class, PGS-MDD was associated with continued treatment for MDD in primary care (1.11, p=0.0002). 56% of those with brief contact were treated for another psychiatric disorder. PGS-MDD and PGS-ADHD were associated with subsequent treatment for anxiety disorders (ICD-10 F4), which was the most common diagnosis (27%).

Conclusion: Genetic risk influences specific clinical trajectories in MDD, although the effect sizes for PGS associations are currently too small to be clinically meaningful.

Abstract #34

Psychiatry Research Day 2023

Mind the Heart - Lived experiences of parents to children with congenital heart disease and mental health issues

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Background: Congenital heart disease (CHD) affects nearly 1% of live births. Diagnosis and subsequent treatment procedures can cause significant parental psychological distress, which might affect parenting behaviours. Further, children with CHD face an increased risk of mental health issues, such as ADHD and autism. The aim of this qualitative study was to explore the lived experiences of parents caring for a child with both CHD and mental health issues.

Methods: Seven parents were recruited through social media and the children's outpatient cardiology ward at Aarhus University Hospital using purposive sampling, aiming for variation in child sex, age, CHD and mental health issues. Parents were interviewed online using a semi-structured interview guide with open-end questions, focusing on how they understood their child's CHD and mental health issues. As mental disorders are often overlooked in young patients with chronic somatic diseases, the interviews also focused on the parent's perspectives on whether the CHD affected how the child's mental health issues were recognized and supported within the family, school and health care system. The interviews will be analysed using interpretative phenomenological analysis (IPA).

Results and conclusion: The results will be ready during fall 2023. We expect they can increase clinical awareness on the mental health in children with CHD and inform communication in clinical encounters.

Abstract #35

Psychiatry Research Day 2023

Association of psychotropic drug use with uncertain treatment indications and the risk of mortality in older adults: A nationwide population-based cohort study in Denmark

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Background: Psychotropic use in older adults (aged ≥ 65) is frequent. Despite safety concerns, off-label use by indication of these drugs is also common, but its impact is understudied. We investigated whether psychotropic prescriptions with uncertain treatment indications were associated with a one-year risk of all-cause mortality in older adults overall and in subgroups with psychiatric disorders, depression, or dementia.

Methods: This register-based cohort study in Denmark included all older adults who redeemed first-time prescriptions for antidepressants, antipsychotics, or benzodiazepines during 2006-2018. We defined uncertain indications as missing or free-text written indications in the prescription register. We used Poisson regression to estimate incidence rate ratios (IRR) with 95% confidence intervals and controlled for socio-demographics and clinical factors.

Results: We identified 202,067 individuals redeeming their first prescriptions for antidepressants, 97,387 for antipsychotics, and 30,471 for benzodiazepines. The proportion of individuals with uncertain treatment indications was 32%, 37%, and 22% for antidepressants, antipsychotics, and benzodiazepines, respectively. For antidepressants and antipsychotics, no significant differences were observed in the risk of mortality by prescription with uncertain indications. However, for benzodiazepines, uncertain treatment indications were associated with a higher risk of mortality (e.g., for overall population IRR: 1.51, 1.27-1.79), which were attenuated to lower risk (e.g., overall population IRR: 0.76, 0.63-0.92) when we accounted for end-of-life treatment.

Conclusion: This study revealed that psychotropic use with uncertain treatment indications is prevalent in older adults but does not increase the risk of mortality. Future research should investigate further drug-specific outcomes of off-label psychotropic use.

Abstract #36

Psychiatry Research Day 2023

Speech- and text-based classification of neuropsychiatric conditions in a multidagnostic setting

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Background: Speech patterns are argued to be promising diagnostic markers for neuropsychiatric conditions. However, most studies only compare one condition to healthy controls, which does not reflect the challenge faced in clinical practice.

Methods: We assessed recordings from 420 participants with major depressive disorder, schizophrenia, autism spectrum disorder, and non-psychiatric controls. We trained and tested a variety of models on both binary and multiclass classification tasks using speech and text features.

Results: While binary classification models performed similarly to prior research (F1: 0.54-0.92), multiclass classification performance was markedly lower (F1: 0.35-0.75). By combining voice and text-based models, relative overall performance improved by 9.4% F1 macro.

Conclusion: Our findings suggest that binary models may not capture markers specific to individual conditions. Future research should aim to collect larger transdiagnostic datasets to capture the complexity of neuropsychiatric conditions.

Abstract #37

Psychiatry Research Day 2023

Critical assessment of the definition of treatment-resistant depression and treatment with esketamine in Denmark

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Background: Nasal esketamine was approved to treat treatment-resistant depression (TRD) in combination with other antidepressants (AND) by the European Medical Agency in 2019, but has not been included in treatment recommendations in Denmark yet, partly due to safety concerns and because there is no consensus on the definition of TRD for identifying eligible patients. Understanding patient characteristics and clinical courses in depression treatment is essential to inform treatment decisions.

Objective: 1) To describe the characteristics and course of treatment with AND in patients (age 25-64 years) with varying definitions of TRD in clinical practice in Denmark; 2) To compare the identified characteristics with characteristics of participants in randomized controlled trials (RCTs) of esketamine.

Method: We conducted a population-based cohort study of all individuals who initiated AND treatment in Denmark between 2015-2018. Follow-up was one year. For these patients, we identified sociodemographics, clinical characteristics, and course of treatment, i.e. redeemed prescriptions for ANDs and psychiatric hospital contacts, from the national registers. Patients were classified according to the number of different ANDs redeemed during FU to define different levels of TRD. For the comparison of patient characteristics, we conducted a literature review of relevant RCTs.

Results: During the study period, 68,417 individuals started AND treatment for the first time since 1995. During follow-up, 96.7% of patients used ≤ 2 ANDs, 3.3% used 3 or 4 ANDs, and 0.5% used ≥ 4 ANDs. Of all AND users, 4,081 (6.0%) were referred to a psychiatric hospital, including 175 (0.26%), who had tried >2 different ANDs. Compared with the participants of the RCTs, individuals from the population-based sample had less than one-year duration of depression, had depression of unknown severity, and included people with psychotic features, substance abuse, or suicidality.

Conclusion: According to the labelled indication of esketamine for TRD of having tried >2 ANDs, 2631 (3.8%) individuals would have been eligible for nasal esketamine during 2015-2018, and 175 (0.26%) individuals among patients with psychiatric hospital contacts. Consideration of depression severity, psychotic features, substance abuse, or suicidality to minimize risk profiles would decrease the number of eligible patients.

Abstract #38

Psychiatry Research Day 2023

Effects of chronic treatment with cannabidiol on neuroplasticity markers and lipidome in the brain of a rat model of depression

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Background: Cannabidiol (CBD) has shown therapeutic potential as an antidepressant drug, but its mechanism of action is not yet understood. Herein, we investigated a) whether chronic treatment with CBD induces antidepressant-like effects in the Flinders Sensitive Line (FSL) rats, a genetic model of depression; b) whether CBD effects are associated with changes in the lipidomic (endocannabinoid) profile and in neuroplasticity markers in the prefrontal cortex (PFC).

Methods: FSL animals (8-10 weeks) were treated with CBD (10 mg/kg; i.p.) or vehicle (7 days). The control strain (FRL) was treated with vehicle. On the seventh day, animals were subjected to the Open Field Test (OFT, 10 min) and the Forced Swimming Test (FST, 7 min). The PFC was collected and processed for: a) Western Blotting to analyze markers of synaptic plasticity and cannabinoid signaling in synaptosome and cytosolic fractions (CB1, CB2, CaMKII, AKT, eEF2, GSK3, ERK1, ERK2, mGluR5, PSD-95, synaptophysin, BDNF, TrkB); b) LC-MS/MS to analyze endocannabinoid levels (eCBs).

Results: FSL had increased immobility in the FST compared to FRL. CBD decreased the immobility time in the FSL. No differences were observed in OFT. In the cytosol: CBD increased ERK1 expression in FSL, compared to FRL; CBD increased ERK2 and decreased mGluR5, compared to FSL, but did not change the other proteins analyzed. In synaptosomes: CBD decreased ERK1 and increased synaptophysin, mGluR5 and CB2 in FSL, but failed to reverse the reduced CB1 levels in FSL. eCBs: were insensitive to CBD.

Conclusion: Results suggest that the effect of CBD in FSL animals is associated with changes in synaptic plasticity involving mGluR5, CB2, ERK1 and ERK2 signaling in the PFC, but without increasing the levels of endocannabinoids in this brain region.

Abstract #39

Psychiatry Research Day 2023

Exploring Rare Genetic Variants in the Serotonin Transporter to better understand Psychological Disorders

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Several rare genetic variants of the serotonin transporter (SERT) have been discovered the later years. These genetic variants have been linked to Obsessive-Compulsive Disorder (OCD), autism, Asperger syndrome, and Attention Deficit Hyperactivity Disorder (ADHD).

Understanding how these SERT variants result in loss-of-function or gain-of-function will help investigate which aspects of protein delivery to the cell surface are important for the proper function of SERT. SERT is responsible for the reuptake of serotonin (5-HT) from the synaptic cleft and can only have its optimal function if it is correctly delivered to the cell surface, where its mode of action is. An aspect that is very important as SERT is the primary drug target for antidepressant drugs such as tricyclic antidepressants, serotonin-norepinephrine reuptake inhibitors, selective serotonin reuptake inhibitors, and psychostimulants such as cocaine and 3,4-methylenedioxymeth-amphetamine (MDMA).

We have investigated the importance of SERT to undergo specific protein conformations as a part of the folding process and delivery of the protein to the cell surface. We have utilized SERT mutants to understand how they can affect the function and the delivery at the cell surface. A transporter that is stalled along its folding trajectory inside the cell has no use, but we have shown that transporters stalled inside the cell can be rescued by pharmacological chaperoning of ibogaine. Ibogaine is a non-competitive inhibitor of SERT, which stabilizes the transporter in a specific conformation, that allows the protein to proceed along the folding trajectory and be delivered to the cell surface. Whether rare genetic SERT variants are stalled along the folding trajectory and thereby result in loss-of-function variants is being investigated and also used as a tool to gain a better understanding of psychological disorders.

Understanding the folding trajectory of individual transporters and associated chaperone molecules may open ways to restore the function of rare genetic variants and pharmacological chaperones that can act as drugs in OCD, autism, ADHD, and depression.

Abstract #40

Psychiatry Research Day 2023

Modifying the adult internet-based treatment programme "Et skridt ad gangen" to adolescents with functional somatic disorders

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Background: The number of adolescents suffering from functional somatic disorders (FSD) is increasing with a current prevalence estimated to 3-10%. FSD is characterized by patterns of persistent and disabling physical symptoms not explained by well-defined physical diseases. Currently, the access to specialised treatment is limited due to lacking resources. Recently the internet-based psychological treatment programme (IBTP) "Et skridt ad gangen" was developed for adults with FSD as a part of a Ph.D. project. Developing an IBTP to adolescents will be the stepping stone to make specialized treatment more assessable and flexible.

Our aim is to develop an IBTP to adolescents aged 15-17 years which will be carried out by modifying the pre-existing IBTP "Et skridt ad gangen". The goal is to make the programme more youth friendly. Furthermore, we will select which quantitative and qualitative measures to use in the first round of testing including two adolescents with FSD.

Methods: The modification of the IBTP will be based on knowledge about adolescents' preferences. This includes among others editing of text, patient cases and videos, and set-up. The quantitative feedback will consist of different questionnaires, which are carefully selected to cover relevant domains. They will be distributed before, during and after treatment. The qualitative feedback will be conducted as an interview and will take place when the patient is half-way through the treatment programme and after. It will consist of open-ended questions covering topics relevant to the programme.

Results: The modification is currently under progress and is expected to be ready by the end of October. This includes the final preparation of the quantitative and qualitative feedback where relevant questionnaires are being selected.

Conclusion: The modified programme will make specialized treatment more assessable and flexible for each individual adolescent diagnosed with FSD. Additionally, more adolescents will be able to receive relevant treatment.

Abstract #41

Psychiatry Research Day 2023

Psychopharmacological treatment patterns in people living with schizophrenia in later life (aged ≥ 55): A descriptive cross-sectional study in Denmark

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Background: Schizophrenia is often considered a chronic and life-long disorder. Little is known about neuro-pharmacological treatment patterns in people of older age living with a schizophrenia diagnosis. Knowledge about patient characteristics and treatment patterns facilitates understanding of disease progression and rational drug use.

Objective: To describe socio-demographics, clinical characteristics, and patterns in prescription drug use in 2019 in adults aged ≥ 55 with a schizophrenia spectrum disorder.

Methods: A cross-sectional study of all individuals aged ≥ 55 , alive, and living in Denmark from 1st January 2019 to 31st December 2019, diagnosed with an ICD-10 diagnosis of schizophrenia (F20), schizotypal (F21) and schizoaffective disorder (F25) any time since 1995. We extracted information about prescriptions from the Danish National Prescription Registry, diagnostic and health care utilization data from the Danish National Patient Registry, and socio-demographics from other various registries. We describe socio-demographics, clinical characteristics, and all redeemed prescriptions, focusing on antipsychotic treatment in 2019.

Results: In 2019, 9240 individuals aged ≥ 55 lived with a diagnosis of schizophrenia spectrum disorder in Denmark (51.5% females). The median age was 62 (IQR: 10), with 16.2% males and 23.5% females ≥ 65 years. Thirty-three % did not redeem a prescription for an antipsychotic in 2019, and 24.8% redeemed prescriptions for 2 or more different antipsychotics. Among antipsychotic users, olanzapine (19.9%), quetiapine (17.3%), and risperidone (12.4%) were the most frequent antipsychotics. The most frequent comorbid somatic conditions were cardio- and cerebrovascular disease, diabetes, cancer, and chronic pulmonary disease. Suicide attempts or self-harm were observed in 20.6% since 1995.

Conclusion: A third of people with a schizophrenia diagnosis did not use antipsychotics while a quarter used antipsychotic polypharmacy. The most frequently used antipsychotics all bear high metabolic and cardiac risks. Given the high somatic co-medication and comorbidity, further studies investigating the outcomes of antipsychotic treatment considering somatic comorbidity are warranted.

Abstract #42

Psychiatry Research Day 2023

Change in polygenic scores for psychiatric disorders for cohorts born between 1981-2008

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Background: During the last decades, the incidence of several treated (i.e. clinically diagnosed) psychiatric disorders has increased. This may be due to environmental risk factors or other factors, such as a widening of diagnostic criteria, increased public and professional awareness, and changes in capacity and referrals. We propose to explore these changes by investigating how the 'genetic load' for psychiatric disorders has changed in recent birth cohorts, using polygenic scores (PGS). If diagnostic criteria have widened over time, we would expect the disorder-specific PGS distribution in patients to shift (due to the inclusion of milder cases) while the PGS distribution in the general population may be more stable. Therefore, we aim to explore changes in PGS in the general population and in individuals diagnosed with specific psychiatric disorders in cohorts born in Denmark between 1981-2008.

Methods: iPSYCH2015 is a population-based case-cohort sample (N = 129,950) selected from a study base consisting of all singleton births to mothers living in Denmark between May 1, 1981 and December 31, 2008. Individuals are linked to the Danish Psychiatric Central Research Register to obtain information on diagnoses of schizophrenia spectrum disorder (ICD-10 codes: F20-F29), major depressive disorder (F32-F33), autism spectrum disorder (F84.0, F84.1, F84.5, F84.8, F84.9), or ADHD (F90.0), using information from 1994 onwards. In addition to cases of these disorders, the iPSYCH2015 sample includes a subcohort who was randomly selected from the study base disregarding any diagnostic information. PGS will be based on the latest summary statistics from the Psychiatric Genomics Consortium. First, we will explore changes in the distribution of PGS in the random subcohort comparing younger birth cohorts to older. Second, we will explore changes in the distribution of PGS in the patient populations, while taking into account the impact of earlier age at onset. Finally, we will use Cox regression with age as the underlying time axis to estimate hazard ratios for psychiatric disorders according to percentiles of disorder-specific PGS distributions and explore how these associations change over time.

Results: We expect to have preliminary results to present.

Conclusions: Shifts in disorder-specific PGS distributions in patients may indicate a widening of diagnostic criteria.

Abstract #43

Psychiatry Research Day 2023

Fracture Risk in patients with Anorexia Nervosa over a 40-year period

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Background: Fracture risk is increased in patients with anorexia nervosa (AN), but more knowledge on the long-term fracture risk and the effects of age, male sex, and time-related changes is still needed

Methods: We examined the long-term (up to 40 years) fracture risk among patients with AN compared to a matched comparison cohort from the general population. We utilized data from the Danish Health Care Registers to identify 14,414 patients with AN (13,474 females and 940 males) diagnosed between 1977 and 2018, with a median age of 18.6 years and median follow-up time of 9.65 years. We calculated adjusted hazard ratios (aHRs) with 95% confidence intervals (CIs) using Cox regression analysis for overall and site-specific fracture risks.

Results: The overall aHR of any fracture was 1.46 [95% CI: 1.36 to 1.48], with an aHR of 1.50 [95% CI: 1.43 to 1.57] for females and 0.95 [95% CI: 0.82 to 1.1] for males. For specific fractures we found an association with femur fractures both in females 4.06 [95% CI: 3.39 to 4.46] and in males 2.79 [95% CI: 1.45 to 2.37] and for fractures of the spine (females 2.38 [95% CI: 2.00 to 2.84], males 2.31 [95% CI: 1.20 to 4.42]). The aHR of any fracture decreased from 1.66 [95% CI: 1.52 to 1.81] in the period from 1977 to 1997 to 1.40 [95% CI: 1.33 to 1.40] from 1998 to 2018.

Conclusion: We found that AN was associated with a 46% increased risk of any fracture up to 40 years after diagnosis. We found no overall increased risk in males, but in both sexes we found a particularly high site-specific fracture risk in the spine and femur. Fracture risk decreased in recent decades, indicating that more patients with AN have been diagnosed with presumably less severe disease and that the earlier detection and intervention of AN in recent years may translate into a lower fracture risk.

Abstract #44

Psychiatry Research Day 2023

Affective Lability in parents with schizophrenia or bipolar disorder and their co-parents - The Danish High Risk and Resilience Study VIA 7

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Background: In bipolar disorder, dysregulation of affect is a core feature while knowledge on affective lability in schizophrenia is sparse. Research on affective lability in partners to individuals with schizophrenia or bipolar disorder is also lacking. The objective of this study was to investigate affective lability in parents with schizophrenia or bipolar disorder, and their co-parents without these disorders.

Methods: The Danish High Risk and Resilience Study – VIA 7 is a population-based cohort study. This study focuses on parents diagnosed with schizophrenia (n = 148), their co-parents (n = 157), parents with bipolar disorder (n = 98), their co-parents (n = 89) and control parents (n = 359). The Affective Lability Scale – short form (ALS-SF) was used to measure affective lability. Higher scores in ALS-SF reflect elevated affective lability.

Results: We found significantly higher levels of affective lability in parents with schizophrenia and bipolar disorder compared with controls, but no significant differences between bipolar disorder and schizophrenia. Co-parents to parents with schizophrenia had significantly higher levels of affective lability compared to controls.

Discussion: Our results add to the existing knowledge concerning underlying transdiagnostic factors and nonrandom mating in schizophrenia and bipolar disorder and highlight the need for studies of parental affective lability as a potential risk factor for offspring in families with parental schizophrenia or bipolar disorder. This also highlights the need for special focus on and support to families with bipolar disorder or schizophrenia.

Abstract #45

Psychiatry Research Day 2023

Efficacy and safety of pharmacological interventions for insomnia in people with severe mental illness: a systematic review and meta-analysis of randomised controlled trials

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Background: Insomnia affects >50% of patients with schizophrenia or bipolar disorder and 85% of patients with major depressive disorder (MDD) and is frequently treated with both licensed and off-label hypnotics. However, no systematic review has evaluated the efficacy and safety of all pharmacological interventions for insomnia in severe mental illness. Our aim was to perform a systematic review on RCTs that have studied the effectiveness and safety of sleep medications in MDD, bipolar disorder and schizophrenia.

Methods: We have performed a systematic literature search in March 2023 to identify all RCTs comparing an active oral sleep medication against placebo or an active control in adults (age ≥ 18 years) with a diagnosis of schizophrenia, MDD or bipolar disorder using a validated, self-rated or clinician-rated sleep questionnaire. Screening of studies, data extraction, and risk of bias assessment with the RoB-2 tool was performed by two independent reviewers. The primary outcomes will be efficacy and safety of the sleep medication and we have several other pre-defined secondary outcomes, which are all in line with a recent systematic review on sleep medication in healthy individuals with insomnia. We will compute standardized mean differences (SMDs) including 95% confidence intervals (95% CIs) for continuous outcome measures. For binary outcomes, we will calculate risk ratios (RR) including 95% CI.

Results: We are currently conducting the data extraction, risk of bias assessment, and analyses. The findings will be presented at the Psychiatric Research Day.

Interpretation: Our findings will be of importance for everyday clinical work, where insomnia is a frequent clinical challenge, and inform guidelines on the treatment of insomnia of individuals with severe mental illness.

Abstract #46

Psychiatry Research Day 2023

Predicting use of Restraint on Psychiatric Inpatients using Electronic Health Records and Machine Learning

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Background: In psychiatry, coercive measures are used as a last resort to control dangerous behaviour in patients and avoid violence. In psychiatric wards, one coercive measure is the use of physical force to prevent violence by restricting the free movement of the patients. Free movement can be limited by three measures: manually restraining the patients, mechanical restraint (e.g. belts and cuffs) and chemical restraint (tranquillising medicine). We have previously shown that mechanical restraint could be detected in advance based on analysis of electronic health record data, providing staff more time to allocate scarce resources. This study aims to establish whether early detection of mechanical restraint could be improved by including information from manual restraint and chemical restraint as co-outcomes.

Method: The dataset consists of electronic health record data from a subset of the PSYchiatric Clinical Outcome Prediction cohort, comprising individuals over the age of 18, with at least one psychiatric admission in Central Denmark Region between 2015 and 2021. Admissions were excluded if the patient had been restrained within the last year. Predictions of whether restraint occurred in the following 48 hours were issued daily during admissions. Following findings from prior research, we included features based on structured variables, and used XGBoost and elastic net logistic regression machine learning models. Hyperparameter tuning was done using 5-fold cross validation of a 85% training split, while a 15% test split is held out for validation.

Results: 494,894 predictions were issued for 15,088 patients across 39,972 admissions. Of these 494,894 prediction days, restraint occurred on 0,27%. The best performing algorithm on the test set was XGBoost, with a performance of AUROC=0.89. At 0.95 specificity, the sensitivity was 0.55, with a positive predicted value of 0.012. The strongest predictors included Brøset Violence Checklist scores, prior medications, hospital contact, and temporary leave.

Conclusion: These results suggest that early detection of mechanical restraint could benefit from including more forms of restraint. The resulting tool may be used to reliably detect mechanical restraint based on routinely collected clinical data.

Abstract #47

Psychiatry Research Day 2023

Inter-rater reliability of the six-item Positive And Negative Syndrome Scale among adolescents with psychosis-spectrum disorders

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Background: Schizophrenia is a severe mental disorder that typically presents in late adolescence or early adulthood. Quantitative monitoring of the severity of illness using rating scales is likely to improve patients' outcomes via more informed clinical decision-making. The brief six-item Positive And Negative Syndrome Scale (PANSS-6) is a measure of the severity of core symptoms of schizophrenia, which can be administered via the brief Simplified Negative And Positive Symptoms Interview (SNAPSI). Recent studies have confirmed the validity of PANSS-6 ratings obtained via SNAPSI among adult patients with schizophrenia. However, the psychometric properties of the PANSS-6+SNAPSI combination among adolescents remain to be assessed. The aim of the present study was to test the inter-rater reliability of the PANSS-6+SNAPSI combination among adolescents with psychosis-spectrum disorders.

Methods: Twelve raters (psychiatrists, psychologists, nurses) attended at least six training sessions prior to the inter-rater reliability test. Ten participants between 12 and 18 years of age with psychosis-spectrum disorders were recruited from the Psychiatric Services in the Central Denmark Region. Inter-rater reliability was evaluated using the intra-class correlation coefficient.

Results: The ICCs for the PANSS-6 total score was 0.87 and ranged across the six PANSS-6 items from 0.60 (blunted affect) to 0.86 (hallucinatory behavior).

Conclusion: In addition to allowing for more timely treatment modifications via measurement-based care, successful validation of the SNAPSI+PANSS-6 combination among adolescents with psychosis-spectrum disorders will enable use of the same measure of symptom severity across age groups and improve continuity of care in the challenging transition from adolescent to adult psychiatric services.

Abstract #48

Psychiatry Research Day 2023

Better lives for relatives to persons with mental disorders - a bridge-building project between the health and the social sector

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Background: Involvement of relatives can have a positive meaning for patients course of treatment. Patients with severe mental disorder obtain better treatment outcome and fewer relapse, readmission and higher patient satisfaction when their relatives are involved in their treatment. Opposite, the caregiver role may be a burden. Relatives experience stress, including lack of information, support, involvement and cooperation when encounter with the psychiatric system. The better support for relatives and securing their well-being, the better they can support the patient.

Aim:

- a) Contribute with new knowledge of what characterises relatives to patients with severe mental disorder that are at risk of feeling burden by the patients difficulties and problems, and what factors that are especially burdening.
- b) Examine the experience of and need for support among relatives and to what extent existing initiatives accommodate these needs.

Methods: The project obtain 2 work packages (WP). WP1 is a national cross-sectional study within hospital psychiatry, using data from the National Survey of Psychiatric Patient Experiences 2018 and 2021 with the responses from 2659 relatives. The study examines associations between specific characteristics (e.g. patient-caregiver relationship) and whether relatives feel burdened, and in which areas the relatives feel burdened. WP2 is a qualitative interview study at Aarhus University Hospital, Psychiatry (AUH), investigating how the everyday life and the meeting with the healthcare sector is experienced and managed by relatives to patients with severe mental disorder.

An advisory group have been established with relatives to patients with severe mental disorders, including representatives from Bedre Psykiatri, PsykInfo Midt, SIND Rådgivning, Recovery skolen – Aarhus Municipality, FriSe, the Department of Psychosis at AUH and the research group. The task of the advisory group is to counsel the research group, qualifying the research by contributing with knowledge and experiences.

Perspectives: Ongoing application for funding to establish a WP3 with the aim to 1) develop a cross-sectional cooperation model in a co-creation proces, that accommodate the needs of the relatives and secure coordination between region, municipality and civil society and 2) test and evaluate the cooperation model with the focus on implementation.

Abstract #49

Psychiatry Research Day 2023

Is ADHD a dimension or a category? What does the relationship between ADHD traits and psychosocial quality of life tell us?

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[The author has declined publication of this abstract](#)